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10/776,378	02/12/2004	Bhawan Bhal Patel	2993-454US-1 PJF/rI	3934
32292	7590	06/15/2005	EXAMINER	
OGILVY RENAULT LLP (PWC)			KIM, TAE JUN	
1981 MCGILL COLLEGE AVENUE				
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CANADA			3746	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,378

Applicant(s)

PATEL ET AL.

Examiner

Ted Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/12/2004</u> | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

1. Applicant is requested to update the priority claim on the 1<sup>st</sup> 3 lines of the specification to refer to US Patent 6,711,900.

### ***Claim Objections***

2. Claim 10 objected to because of the following informalities: "the channel" lacks proper antecedent basis and should be -- a channel --.
3. Claim 12 is objected to because of the following informalities: 4<sup>th</sup> line from the end "the at least one" lacks proper antecedent basis and should be --an at least one--.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-8, 10, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bell et al (5,799,491). Bell teach a method of making a gas turbine engine combustor, comprising the steps of: providing a combustor; providing a circumferentially extending louver member 92 for ducting a flow of compressed air through a plurality of inlet openings in a combustor wall 16, 18 from a source of compressed air outside the combustor, wherein the combustor has an end wall 22, at least one side wall 16, 18 and a

combustor outlet 34, the louver 92 being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member in a manner permitting non-destructive releasable connection and disconnection via 82, 88, 80 to an interior surface of the combustor wall and at least partially covering the inlet openings, the louver having a plurality of outlet openings 90 in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments (see Fig. 4); the louver is mounted with removable fasteners; the removable fasteners include threaded studs extending from the louver through the combustor wall with removable nuts externally fastened thereon (82, 88, 80); each segment includes two combustor wall abutting end bulkheads 76a, 76b (see Fig. 4) bounding the channel there between; a method of repairing a gas turbine combustor, comprising the steps of: removing an initial louver member from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection 82, 88, 80 to an interior surface of the combustor wall and at least partially covering the at least one inlet opening, wherein the replacement louver member is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member. Note that this encompasses all the known types of louver and is hence the method of replacing a louver is inherently capable of being performed.

6. Claims 1, 5-7, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fucci (4,700,544). Fucci teaches a method of making a gas turbine engine combustor, comprising the steps of: providing a combustor; providing a circumferentially extending louver member 22 for ducting a flow of compressed air through a plurality of inlet openings 24 in a combustor wall from a source of compressed air outside the combustor, wherein the combustor has an end wall, at least one side wall and a combustor outlet (see Dierberger 4,380,906, which is incorporated by reference in col. 2, lines 10+ of Fucci), the louver being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member in a manner permitting non-destructive releasable connection and disconnection via bendable tabs 30 to an interior surface of the combustor wall and at least partially covering the inlet openings, the louver having a plurality of outlet openings in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments 22; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments; the louver is mounted with removable fasteners; a method of repairing a gas turbine combustor, comprising the steps of: removing an initial louver member from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection to an interior surface of the combustor wall and at least partially covering the at least one inlet

opening, wherein the replacement louver member is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member. Note that this encompasses all the known types of louver and is hence the method of replacing a louver is inherently capable of being performed.

7. Claims 1, 5-7, 10, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dierberger et al (4,422,300). Dierberger '300 teaches a method of making a gas turbine engine combustor, comprising the steps of: providing a combustor; providing a circumferentially extending louver member 12 for ducting a flow of compressed air through a plurality of inlet openings 34 in a combustor wall 14 from a source of compressed air outside the combustor, wherein the combustor has an end wall (inherent, not shown), at least one side wall 14 and a combustor outlet (inherent), the louver being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member in a manner permitting non-destructive releasable connection and disconnection 20, 22, 30, 22 to an interior surface of the combustor wall and at least partially covering the inlet openings 34, the louver having a plurality of outlet openings 36 in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments; the louver is mounted with removable fasteners 20, 22, 30, 22; each segment includes two combustor wall abutting end bulkheads 15 bounding the channel there between; method of repairing

a gas turbine combustor, comprising the steps of: removing an initial louver member 12 from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection to an interior surface of the combustor wall and at least partially covering the at least one inlet opening, wherein the replacement louver member is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member. Note that this encompasses all the known types of louver and is hence the method of replacing a louver is inherently capable of being performed.

8. Claims 1, 5-8, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jarrell et al (5,323,601). Jarrell et al teach a method of making a gas turbine engine combustor, comprising the steps of: providing a combustor; providing a circumferentially extending louver member 18 for ducting a flow of compressed air through a plurality of inlet openings 28 in a combustor wall from a source of compressed air outside the combustor, wherein the combustor has an end wall, at least one side wall and a combustor outlet, the louver being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member in a manner permitting non-destructive releasable connection and disconnection via 32, 34 to an interior surface of the combustor wall and at least partially covering the inlet openings 28, the louver having a plurality of outlet openings 24, 26 in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments

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18; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments; the louver is mounted with removable fasteners 32, 34; the removable fasteners include threaded studs extending from the louver through the combustor wall with removable nuts externally fastened thereon (32, 34); method of repairing a gas turbine combustor, comprising the steps of: removing an initial louver member 18 from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection to an interior surface of the combustor wall and at least partially covering the at least one inlet opening, wherein the replacement louver member (col. 4, lines 44+) is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member (note that this encompasses all the known types of louver).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above prior art and further in view of Jarrell et al (5,323,601). The above prior art teach a



releasable connection and thus is an inherently repairable assembly. For an explicit teaching of replacing the liner, Jarrell et al is cited to teach using a replacement louver member (col. 4, lines 44+). It would have been obvious to one of ordinary skill in the art to employ a replacement louver, as taught by Jarrell et al, to repair and/or maintain the combustor.

11. Claims 1-8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce (2,657,531) in view of either Jarrell et al (5,323,601) or Bell et al (5,799,491). Pierce teaches a method of making a gas turbine engine combustor (Figs. 4 & 5 where the structure is the same as the louvers in Fig. 2, col. 3, lines 23+), comprising the steps of: providing a combustor; providing a circumferentially extending louver member 9 or 11 for ducting a flow of compressed air through a plurality of inlet openings in a combustor wall from a source of compressed air outside the combustor, wherein the combustor has an end wall, at least one side wall and a combustor outlet, the louver being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member to an interior surface of the combustor wall and at least partially covering the inlet openings 8, the louver having a plurality of outlet openings between 9a and 9b in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments; the V-band louver is mounted with fasteners at 9b; wherein the outlet openings of the louver are oriented to

induce a toroidal gas flow 15 or 17 within the combustor; the outlet openings of the louver are oriented to induce a double toroidal gas flow 15, 17 within the combustor. Pierce teaches the fasteners can be welds or any other convenient means of fastening. As known in the art, the use of removable fasteners include threaded studs extending from the louver through the combustor wall with removable nuts externally fastened thereon is a well known type of fastener, taught by either Jarrell et al or Bell et al. Replacement of removable louvers, is inherently achieved by a removable connection. Alternately, Jarrell et al is cited to teach using a replacement louver member (col. 4, lines 44+). It would have been obvious to one of ordinary skill in the art to employ a replacement louver, as taught by Jarrell et al, to repair and/or maintain the combustor. Thus the combination renders obvious a method of repairing a gas turbine combustor, comprising the steps of: removing an initial louver member from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection to an interior surface of the combustor wall and at least partially covering the at least one inlet opening, wherein the replacement louver member is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member.

12. Claims 1-8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holladay (5,195,315). Holladay teaches a method of making a gas turbine engine combustor, comprising the steps of: providing a combustor; providing a circumferentially extending louver member 44 for ducting a flow of compressed air through a plurality of

inlet 50 openings in a combustor wall from a source of compressed air outside the combustor, wherein the combustor has an end wall, at least one side wall and a combustor outlet, the louver being mounted to said side wall spaced a distance from the end wall toward the combustor outlet; and mounting the louver member to an interior surface of the combustor wall and at least partially covering the inlet openings, the V-band louver having a plurality of outlet openings (note that discrete jets are formed, col. 2, lines 46) in flow communication with an inlet opening; wherein the louver comprises of a plurality of arcuate modular segments 44; wherein the circumferentially extending louver includes a circumferential expansion and contraction joint between adjacent pairs of said plurality of arcuate modular segments 44; wherein the outlet openings of the louver are oriented to induce a toroidal gas flow 66 or 68 within the combustor; the outlet openings of the louver are oriented to induce a double toroidal gas flow 66, 68 within the combustor. The removable connector is not taught. As known in the art, the use of removable fasteners include threaded studs extending from the louver through the combustor wall with removable nuts externally fastened thereon is a well known type of fastener, taught by either Jarrell et al or Bell et al. Replacement of removable louvers, is inherently achieved by a removable connection. Alternately, Jarrell et al is cited to teach using a replacement louver member (col. 4, lines 44+). It would have been obvious to one of ordinary skill in the art to employ a replacement louver, as taught by Jarrell et al, to repair and/or maintain the combustor. Thus the combination renders obvious a method of repairing a gas turbine combustor, comprising the steps of: removing an initial louver

member from an interior wall of the combustor; and mounting a replacement louver member to the interior wall of the combustor in a non-destructive manner for releasable connection and disconnection to an interior surface of the combustor wall and at least partially covering the at least one inlet opening, wherein the replacement louver member is selected from the group comprising: the initial louver member; a repaired louver member and a newly manufactured louver member.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above prior art in view of Pidcock et al (5,435,139). The prior art teach various aspects of the claimed invention but do not teach the segment is a metal casting. However, using castings are old and well known in the art as a manufacturing process that is relatively inexpensive and easy to manufacture. Pidcock et al explicitly teach making the louver 26 a casting (col. 3, lines 3+) It would have been obvious to one of ordinary skill in the art to make the louvers from a metal casting, in order to make the segments relatively inexpensively and/or easily.

***Potentially Allowable Subject Matter***

14. Claim 11 is objected to as being dependent upon a rejected base claim, but would be potentially allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to clear up the objections made to the intervening claims.


***Contact Information***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 703-872-9306 for Regular faxes and 703-872-9306 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>

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